

**APPARATUS FOR PRE-AUTHENTICATION OF USERS USING ONE-TIME  
PASSWORDS**

**ABSTRACT OF THE DISCLOSURE**

5           A computer program product for a client computing system including a  
processor includes code that directs the processor to request a challenge from a authentication  
server, code that directs the processor to receive the challenge from the authentication server  
via a first secure communications channel, the challenge comprising an identity code, code  
that directs the processor to receive user authentication data from a user, code that directs the  
10 processor to determine a private key and a digital certificate in response to the user  
authentication data, code that directs the processor to form a digital signature in response to  
the identity code and the private key, code that directs the processor to communicate the  
digital signature to the authentication server, code that directs the processor to communicate  
the digital certificate to the authentication server, the digital certificate comprising a public  
15 key in an encrypted form, and code that directs the processor to communicate network user  
authentication data and the identity code to the authentication server via a security server,  
wherein the authentication server activates the identity code when the digital signature is  
verified, and wherein the codes reside on a tangible media.

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PA 3151320 v1